

AMENDMENTS TO THE CLAIMS

1-6. (Canceled)

7. (Previously Presented) The method of claim 78, wherein the actuator comprises a linear actuator.

8. (Previously Presented) The method of claim 78, wherein the actuator comprises a hydraulic pump.

9. (Previously Presented) The method of claim 78, wherein the actuator has a visualization window for viewing the contents of the vessel.

10. (Previously Presented) The method of claim 78, wherein the visualization window has means for measuring the amount of viscous bone cement being delivered.

11. (Previously Presented) The method of claim 78, wherein the means for measuring are graduation lines marked on the outside of the actuator.

12. (Previously Presented) The method of claim 78, wherein the delivery tube is flexible and noncompliant.

13. (Previously Presented) The method of claim 78, wherein the container is adapted to hold at least 3 cc of viscous bone cement.

14. (Previously Presented) The method of claim 78, wherein the container further comprises a visualization window for viewing contents of the container.

15. (Previously Presented) The method of claim 78, wherein the visualization window has means for measuring the amount of viscous bone cement being delivered.

16. (Previously Presented) The method of claim 78, wherein the means for measuring are graduation lines marked on the outside of the container.

17. (Previously Presented) The method of claim 78, wherein the container is made from a noncompliant material.

18. (Canceled)

19. (Previously Presented) The method of claim 78, wherein the amount of fluid contained in the vessel is greater than the amount of viscous to be delivered.

20. (Previously Presented) The method of claim 78, further comprising a cannula connected to the exit port for delivery of the viscous material to the desired injection site in the patient.

21-35. (Canceled)

36. (Previously Presented) The method of claim 37, a separator sized to move within the inner bore of the tube while separating the viscous material from the incompressible fluid.

37. (Previously Presented) A method of delivering a viscous material under fluoroscopy to a site in a patient comprising the steps of:

a) providing a delivery tube containing an incompressible fluid and a viscous material, wherein the viscous material is located within the fluoroscopy field and the viscous material comprises bone cement; and

b) pressurizing the incompressible fluid outside the fluoroscopy field to exert pressure on the viscous material.

38. (Previously Presented) The method of claim 37 wherein the delivery tube is flexible and noncompliant.

39. (Previously Presented) The method of claim 37 wherein the step of pressurizing the incompressible fluid, comprises using a linear actuator.

40. (Previously Presented) The method of claim 37 further comprising the step of: a) determining the amount of viscous material delivered from a visualization window.

41-49. (Canceled)

50. (Previously Presented) A method according to claim 37, further comprising applying force amplification on the incompressible fluid.

51. (Previously Presented) A method according to claim 37, further comprising applying force amplification on the incompressible fluid by mechanical advantage.

52-58. (Canceled)

59. (Previously Presented) A method according to claim 37, comprising cooling said bone cement in a manner sufficient to delay its solidification.

60. (Previously Presented) A method according to claim 37, further comprising replacing a cement chamber during a single medical procedure.

61. (Previously Presented) A method according to claim 37, further comprising delivering 10 cc of bone cement to a bone.

62. (Previously Presented) A method according to claim 37, comprising not replacing a cement chamber during a single medical procedure.

63-77. (Canceled)

78. (Previously Presented) A method of delivering a viscous bone cement material under fluoroscopy to a site in a patient, comprising:

providing a delivery device having:

a container containing a viscous bone cement prior to the bone cement having set, the container having an exit port;

an actuator having an actuator vessel, the actuator vessel containing an incompressible fluid; and

a hydraulic coupling tube connecting the actuator vessel to the container;

locating the container with respect to the patient so that cement leaving the container through the exit port is delivered to a desired injection site within the patient; and

while at least a portion of the patient is subjected to fluoroscopic imaging, actuating the actuator from a location outside a field of fluoroscopic imaging to hydraulically drive a flow of viscous bone cement through the exit port to the desired injection site within the patient.